



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/682,199	10/10/2003	Peter Hermentin	06478.1495	1253
22852	7590	11/25/2008		
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413			EXAMINER VENC1, DAVID J	
			ART UNIT 1641	PAPER NUMBER
			MAIL DATE 11/25/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Art Unit: 1641



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/682,199  
Filing Date: October 10, 2003  
Appellant(s): HERMENTIN ET AL.

Elizabeth A. Doherty  
Reg. No. 50,894

Rebecca M. McNeill  
Reg. No. 43,796

Finnegan, Henderson, Farabow, Garrett & Dunner, LLP  
901 New York Avenue, NW  
Washington, D.C. 20001-4413

For Appellant

**RESPONSE TO REPLY BRIEF**

This is in response to the Reply Brief filed January 17, 2008, replying to the

Examiner's Answer mailed November 19, 2007.

**(10) Response to Arguments**

Appellants argue:

1. Shainoff does not suggest using regular agarose for resolving multimeric proteins because Shainoff used regular agarose either (1) as a control for comparison to the glyoxyl agarose gels which were the focus of Shainoff's article, or (2) to make a composite gel.
2. Shainoff *emphasizes* the advantages of glyoxal agarose in the first paragraph of the article, which evidences Shainoff's bias against regular agarose.
3. Shainoff *highlights* the comparatively broad immunostained bands in Figure 4 due to greater staining sensitivity and intensity relative to dye staining, which evidences Shainoff's bias against dye staining.
4. Bhat's & Nagineni's two-dimensional electrophoresis procedure requires two different gels and is not disclosed to be advantageous with one-dimensional electrophoresis.
5. Bhat & Nagineni used polyacrylamide gels, whereas the claimed invention requires agarose.
6. Perrella & Denisov do not teach or suggest the operating temperature range recited in dependent claim 25.
7. Perrella & Denisov teach away from the operating temperature range recited in dependent claim 25 because Perrella & Denisov describe buffer compositions that do not freeze at cryogenic temperatures.

Appellants' arguments have been carefully considered but are not persuasive.

With respect to 1), Examiner acknowledges that Shainoff used regular agarose for comparison to glyoxyl agarose gels. Thus, Shainoff explicitly teaches using regular agarose for resolving multimeric proteins (see *e.g.*, p. 66, Section 1.1 *Development of glyoxyl agarose and composites*, first paragraph,

Art Unit: 1641

first sentence, "fibrinogen derivatives"; see also, p. 78, Section 2.1.1.1 *Gel concentrations*, first paragraph, line 5, "separating von Willebrand factor multimers").

With respect to 2) and 3), Shainoff "emphasizes" or "highlights" several viable alternatives used in electrophoresis procedures, including the use of glyoxal agarose and immunostaining. This is not tantamount to Shainoff sharing Appellants' bias against dye labels and continuous agarose gels (see Appeal Brief, p. 10, second full paragraph to p. 11, first full paragraph; see also, p. 12, first full paragraph). Appellant has not indicated as to how/why dye labels and continuous agarose gels might be inferior and/or inoperative.

With respect to 4) and 5), Bhat & Nagineni used their "submarine" apparatus for one-dimensional electrophoresis in agarose (see Abstract, first sentence). Persons of ordinary skill would find it obvious to replace Shainoff's electrophoretic protocol with Bhat's & Nagineni's "submarine" method because Bhat's & Nagineni's "submarine" method allows for stacking of multiple gels for multiple simultaneous runs (see Abstract).

With respect to 6), Examiner acknowledges that Perrella & Denisov do not explicitly teach the operating temperature range recited in dependent claim 25. However, Perrella & Denisov demonstrated the ability of lower temperatures to capture "intermediate stages of ligation" and "quaternary structural changes" of a multimeric protein, which has particular relevance to Shainoff's electrophoretic separation of multimeric von Willebrand factor and fibrinogen. Thus, the operating temperature range recited in dependent claim 25 may be considered obvious in view of Perrella's & Denisov's teachings, and in view of the U.S. Court of Customs and Patent Appeals' decision that discoveries of optimum or workable temperature ranges are not patentable when the prior art discloses general conditions (e.g., temperature dependence) of a claim. See *In re Aller*, 105 USPQ 233 (CCPA 1955).

Art Unit: 1641

With respect to 7), Examiner acknowledges that Perrella & Denisov describe buffer compositions that do not freeze at cryogenic temperatures. Appellant does not address how this precludes, or teaches away from, using these buffer compositions in the operating temperature range recited in dependent claim 25, or in the methods of Shainoff and Bhat & Nagineni.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

David J. Venci  
Assistant Examiner  
Art Unit 1641

/Long V Le/

Supervisory Patent Examiner, Art Unit 1641

/Mark L. Shibuya/  
Supervisory Patent Examiner, Art Unit 1641